



P.O. Box 538704 Cincinnati, Ohio 45253-8704 (513) 648-3000

May 26, 1998

Fernald Environmental Management Project
Letter No. C:FC&DP: 98-0013

Mr. Peter Sturdevant, Compliance Specialist
Air Quality Management
Hamilton County Department of Environmental Services
1632 Central Parkway
Cincinnati, Ohio 45210

Dear Mr. Sturdevant:

**PERMIT TO OPERATE - FUEL DISPENSING FACILITY AT THE FERNALD ENVIRONMENTAL
MANAGEMENT PROJECT - OEPA NO. 1431110128 G001**

Enclosed is a Permit to Operate Application for the FEMP Fuel Dispensing Facility. Please contact Patrick Shanks of my staff at (513) 648-4203 if you have any questions about this application.

Sincerely,

A handwritten signature in black ink, appearing to read "W. B. Jameson", written over a horizontal line.

Woodrow B. Jameson
Vice President
Facility Closure & Demolition Projects

WBJ:PAS:jes
Enclosure

c: With Enclosure:
W. Figgins, FDF, MS21
P. A. Shanks, FDF, MS65-2
E. P. Skintik, DOE-FEMP, MS45
D. A. Vizedom, FDF, MS21
T. J. Walsh, FDF, MS65-2
AR Coordinator, FDF, MS78
PSI(EC) Files, MS44-1
File Record Storage Copy 106.4.33

Without Enclosure:
L. C. Goidell, FDF, MS65-2
P. B. Spotts, FDF, MS65-2
C. L. Turner, FDF, 44-1

OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA)
APPLICATION FOR STATE PERMIT(S) TO OPERATE AN EMISSIONS UNIT (S)

(Do not complete application without reading instructions.)

1. Facility Information:

- a. Applicant Name: Department of Energy
- b. Facility Name: Fernald Environmental Management Project
- c. Facility Location: Fernald
Street: 7400 Willey Road
City/Village/Township: Fernald
County: Hamilton Zip Code: 45013-9402
- d. Primary Facility Contact Name: Mr. Lewis Goidell
- e. Primary Facility Contact Mailing Address/Phone Number:
Street: Post Office Box 538704
City/Village/Township: Cincinnati
State: Ohio Zip Code: 45253-8704
Phone Number: (513) 648-4124
- f. OEPA Facility Identification (ID) Number (10-digit number): 1431110128
- g. Facility Primary Standard Industrial Classification (SIC) Code Number (4-digit number): 4953
- h. Authorized Individual Signature:

I, being the individual specified in Ohio Administrative Code (OAC) rule 3745-35-02(B), hereby apply for Permit(s) to Operate (PTO) the emissions unit(s) described herein.

Authorized Individual's Name (Please type or print)

Authorized Individual's Signature

Date Signed

Title

FOR OHIO EPA USE ONLY:
DATE APPLICATION RECEIVED: _____
FACILITY ID: _____
EMISSIONS UNIT(s) ID(s): _____

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Operation of an emissions unit without an effective permit to operate, variance to operate, or registration status is prohibited by OAC rule 3745-35-02 and Section 3704.05 of the Ohio Revised Code.

- i. Identification of Emissions Unit(s) at Facility (Identify the following information for each emissions unit(s) for which this application is being completed. List each emissions unit on a separate line. Mark "NE" (not established) if no OEPA ID (Identification) has been assigned to an emissions unit):

NOTE: Do not list emissions units that have been registered by the Ohio EPA in accordance with OAC rule 3745-35-05(B).

4-Digit OEPA ID	Company ID for Emissions Unit
G001	Diesel Tank- 99-X218-TNK; Gasoline Tank- 99-X219-TNK

(If additional entries for emissions units are needed, copy this page and attach the additional page(s) with additional emissions units entered and indicate below.) Check here if additional copies of this page are attached: _____

2. Emissions Unit Information (make a copy of pages 3-6 and attach for each emissions unit listed on page 2):

- a. OEPA Emissions Unit ID (4-digit) number: G001
- b. Company ID for Emissions Unit: Diesel Tank- 99-X218-TNK;
Gasoline Tank- 99-X218-TNK
- c. Emissions Unit Activity Description: Fuel Dispensing Facility- dispenses diesel and gasoline fuels.
- d. Equipment Description: The Fuel Dispensing Facility consists of one 6000 gallon tank that contains gasoline and another 6000 gallon tank that contains diesel fuel. Each tank has two dispensing nozzles for dispensing the stored fuel into motor vehicles and/or portable containers.
- e. Initial Installation Date (month/year): January, 1995

Initial Startup Date (month/year): January, 1995

Recent Modification Date (if applicable)
(as defined in OAC rule 3745-31-01(J)) (month/year): N/A

f. Emissions Information:

Complete the following table for each criteria air pollutant proposed to be emitted from the emissions unit at a rate greater than one ton/year (list each pollutant on a separate line), and for any pollutant for which an emissions limit has been established (per a state or federal regulation or Permit to Install) which limits air emissions of the pollutant to less than one ton/year.

Pollutant Name	Proposed Maximum Hourly Emissions (pounds/hour)	Proposed Maximum Annual Emissions (tons/year)
VOCs	0.2183 lb/hr	0.9562 tons/year

(If additional pollutants need to be identified, copy this page and attach the additional page(s). Check here if additional copies of this page are attached.)

g. Proposed Operating Schedule:

Average: Hours/Day: 24 Maximum: Hours/Day: 24
Hours/Year: 8760 Hours/Year: 8760

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h. Control Equipment Information:

Provide the following for each add-on emissions control device to be employed for the emissions unit:

Check here _____ if no emissions control device is proposed to be employed for the emissions unit and proceed to item "i" below.

Control Equipment Type Codes:

- | | |
|-------------------------------|---|
| A. Fabric Filter/Baghouse | G. Condenser |
| B. Electrostatic Precipitator | H. Carbon Adsorber |
| C. Catalytic Incinerator | I. Concentrator |
| D. Thermal Incinerator | J. Cyclone/Multiclone |
| E. Flare | K. Settling Chamber |
| F. Wet Scrubber | L. Other, describe: <u>Stage I Vapor</u>
<u>Balance System; Submerged Fill</u>
<u>Pipe- 6 inches from tank bottom</u> |

Item	Control Device #1	Control Device #2	Control Device #3
i. Type (see above codes)	L- VBS	L- SFP	
ii. Configuration	Primary	Primary	
iii. Manufacturer's Name			
iv. Company ID			
v. Month/Year Installed	1/95	1/95	
vi. Pollutant(s) Controlled	VOCs	VOCs	
vii. Operating Capture Efficiency (%)			
viii. Design Control Efficiency (%)	> 90%	> 90%	
ix. Operating Control Efficiency (%)			
x. Inlet Gas Flow (acfm)			
xi. Inlet Gas Temperature (°F)			
xii. Maximum Controlled Emissions Rate for Each Pollutant Controlled (lb/hr, grain/dscf, or ppmv)			

Control Device #1	<div></div> <div></div> <div></div>
Control Device #2	<div></div> <div></div> <div></div>
Control Device #3	<div></div> <div></div> <div></div>

i. Emissions Egress Point(s) Information: (Provide the following information for each point at which emissions are released into the ambient air from the emissions unit and list each individual egress point on a separate line.)

Egress point description codes:
A. Vertical stack (unobstructed)
B. Horizontal/downward stack

C. Vertical stack (obstructed)
D. Fugitive

Company ID for Egress Point	Description Code
Diesel Tank- 99-X218-TNK	D
Gasoline Tank- 99-X219-TNK	D

j. A Process or Activity Flow Diagram must be submitted for each emissions unit included in the application. Include the OSHA Emission Unit ID and company identification for the emissions unit on each process or activity flow diagram submitted. Show entry and exit points of all raw materials, intermediate products, by-products and finished products. Label all materials, including air pollution emissions and other waste materials and identify material and exhaust gas flow rates. Label the process equipment, emissions control equipment, and emissions egress points utilized.

- k. Continuous emissions monitoring equipment: (Provide the following information if any continuous emission monitoring equipment is employed for any egress point(s) associated with this emissions unit.)

Company ID for Egress Point	Type of Monitor	Manufacturer/ Model No.	Serial No.	Pollutant(s) Monitored

- l. Federally Enforceable Emissions Limits: (Provide the following information only if applying for federally enforceable limits, per OAC rule 3745-35-07, for the emissions unit.)

Check here _____ if applying, per OAC rule 3745-35-07, for federally enforceable limits as part of this permit issuance.

If applying for such limits, attach a separate piece of paper providing the following information:

- i. identification of the proposed operation/production limitation(s) for the emissions unit(s);
- ii. identification of the proposed short term emission limit for each pollutant, corresponding to the proposed operational/production limit;
- iii. proposed method(s), including identification of applicable methods, including any contained within 40 CFR, Parts 51 and 60, which will be utilized to demonstrate compliance with the federally enforceable limits; and
- iv. a summary of the total facility "potential to emit" (tons/year) for each applicable pollutant (PM, NO_x, SO₂, CO, VOC, HAPs, etc.) as of implementation of the proposed federally enforceable limits (include supporting calculations).

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m. Confidentiality Claims:

Check here _____ if requesting any information included in this application for this emissions unit to be claimed as a trade secret per Ohio Revised Code (ORC) 3704.08:

If a claim is being made, attach a separate piece of paper to this application and include the following information to justify the claim:

- i. identification of the specific information (item # and description) submitted within the application for the emissions unit which is being claimed as a trade secret;
- ii. an explanation of why the information specified is indeed a trade secret;
- iii. confirmation that the alleged trade secret is not revealed by inspection or analysis of any marketed product (example: "reverse chemistry"); and
- iv. identification of security measures which have been adopted to ensure secrecy, and confirmation that reasonable or enforceable agreements or other confidential relationships prohibiting use or disclosure of the secret existed with those whom the secret was revealed (example: employee secrecy agreements and/or contractor agreements).

Finally, if a confidentiality claim is being submitted, two copies of the application need to be submitted, one completed version with all the information requested and one "sanitized" version containing all information requested except that information upon which a trade secret claim is being made.

n. Emissions Activity Category Forms:

The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each emission unit. At least one complete EAC form must be submitted for each emission unit for the application to be considered complete. Please identify each EAC form completed and being submitted with this application for this emissions unit:

EAC form ID number (see instructions for list of EAC forms)

- | | |
|-----------|------------|
| i. 3105 | iii. _____ |
| ii. _____ | iv. _____ |

part 8

EMISSION ESTIMATES
PERMIT TO OPERATE APPLICATION
FUEL DISPENSING FACILITY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
OEPA NO. 1431110128 G001

The FEMP Fuel Dispensing Facility (FDF) dispenses diesel and gasoline fuels. The FDF was installed in January, 1995. The monthly average throughput during the calendar of years 1995 through 1997 for gasoline was 3,601 gallons (6,455 gallons maximum) and for diesel fuel was 5,162 gallons (14,000 gallons maximum). The average and maximum conditions are based on these throughputs for the diesel and gasoline fuels.

Per AP-42, Table 5.2-7- "Evaporative Emissions from Gasoline Service Station Operations", the total emissions from each dispensing source is the additive of the emissions from:

- 1) tank filling (balanced submerged filling for the FEMP FDF);
- 2) tank breathing and emptying;
- 3) vehicle refueling displacement losses (uncontrolled for the FEMP FDF); and
- 4) spillage

For gasoline, the controlled emissions during average and maximum conditions are:

AVERAGE: 0.065 lb/hr (0.285 tons/yr)

MAXIMUM: 0.117 lb/hr (0.510 tons/yr)

Uncontrolled emissions of the gasoline during average and maximum conditions are:

AVERAGE: 0.121 lb/hr (0.530 tons/yr)

MAXIMUM: 0.217 lb/hr (0.950 tons/yr)

For diesel fuel, an approximate volatility was determined using a ratio based on information listed in AP-42, Table 5.2-5- "Total Uncontrolled Organic Emission Factors for Petroleum Liquid Rail Tank Cars and Tank Trucks". Emission factors listed in Table 5.2-5 for gasoline and distillate oil No. 2 (diesel) were compared and a consistent ratio between emission factors for the two fuels was found which was approximately 0.0028 pounds of diesel to one pound of gasoline per 1000 gallons of fuel. The emission factors listed in Table 5.2-7 were multiplied by 0.0028 to determine the emission factors for diesel fuel.

Controlled emissions of diesel fuel during average and maximum conditions are:

AVERAGE: 2.60 E-4 lb/hr (1.14 E-3 tons/yr)

MAXIMUM: 6.90 E-4 lb/hr (3.10 E-3 tons/yr)

Uncontrolled emissions of diesel fuel during average and maximum conditions are:

AVERAGE: 4.84 E-4 lb/hr (2.12 E-3 tons/yr)

MAXIMUM: 1.32 E-3 lb/hr (5.77 E-3 tons/yr)

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AP-42 TABLE 5.2-7
EVAPORATIVE EMISSIONS FROM GASOLINE SERVICE STATION OPERATIONS
CONTROLLED EMISSIONS

EMISSION SOURCE	CONTROLLED EMISSION RATE (LB/1000 GALLONS)	
	<u>GASOLINE</u>	<u>DIESEL *</u>
TANK FILLING (balanced submerged fill)	0.3	0.00084
TANK BREATHING & EMPTYING	1.0	0.0028
VEHICLE REFUELING LOSSES (displacement- uncontrolled)	11.0	0.0308
VEHICLE REFUELING- SPILLAGE	0.7	0.00196

(* Emission Rate Factor for diesel fuel is 0.0028 times the Factor for gasoline.)

Emission Estimate Equation (lb/hr):

Throughput (1000 gal/month) / (30 days/month) / (24 hr/day) * Emission Rate(lb/1000 gal)

GASOLINE			DIESEL		
Average Throughput: 3,601 gal/month Maximum Throughput: 6,455 gal/month			Average Throughput: 5,162 gal/month Maximum Throughput: 14,000 gal/month		
	<u>Average</u>	<u>Maximum</u>		<u>Average</u>	<u>Maximum</u>
TANK FILL (LB/HR)	0.0015	0.0027		6.02 E-6	1.63 E-5
TANK BREATHING (LB/HR)	0.0050	0.0090		2.00 E-5	5.44 E-5
DISPLACEMENT (LB/HR)	0.0550	0.0986		2.20 E-4	5.99 E-4
SPILLAGE (LB/HR)	0.0035	0.0063		1.40 E-5	3.81 E-5
TOTAL (LB/HR)	0.0650	0.1166		2.60 E-4	7.08 E-4
TOTAL (TONS/YR)	0.2847	0.5107		1.14 E-3	3.10 E-3

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AP-42 TABLE 5.2-7
EVAPORATIVE EMISSIONS FROM GASOLINE SERVICE STATION OPERATIONS
UNCONTROLLED EMISSIONS

EMISSION SOURCE	UNCONTROLLED EMISSION RATE (LB/1000 GALLONS)	
	<u>GASOLINE</u>	<u>DIESEL *</u>
TANK FILLING (splash fill)	11.5	0.0322
TANK BREATHING & EMPTYING	1.0	0.0028
VEHICLE REFUELING LOSSES (displacement- uncontrolled)	11.0	0.0308
VEHICLE REFUELING- SPILLAGE	0.7	0.00196

(* Emission Rate Factor for diesel fuel is 0.0028 times the Factor for gasoline.)

Emission Estimate Equation (lb/hr):

Throughput (1000 gal/month) / (30 days/month) / (24 hr/day) * Emission Rate(lb/1000 gal)

GASOLINE			DIESEL		
Average Throughput: 3,601 gal/month Maximum Throughput: 6,455 gal/month			Average Throughput: 5,162 gal/month Maximum Throughput: 14,000 gal/month		
	<u>Average</u>	<u>Maximum</u>		<u>Average</u>	<u>Maximum</u>
TANK FILL (LB/HR)	0.0575	0.1031		2.30 E-4	6.26 E-4
TANK BREATHING (LB/HR)	0.0050	0.0090		2.00 E-5	5.44 E-5
DISPLACEMENT (LB/HR)	0.0550	0.0986		2.20 E-4	5.99 E-4
SPILLAGE (LB/HR)	0.0035	0.0063		1.40 E-5	3.81 E-5
<hr/>			<hr/>		
TOTAL (LB/HR)	0.1210	0.2170		4.84 E-4	1.32 E-3
TOTAL (TONS/YR)	0.5300	0.9505		2.12 E-3	5.77 E-3

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PROCESS FLOW DIAGRAM

VOCs

SPLASH FILL:

GASOLINE: 11.5 LB/1000 GAL

DIESEL: 0.0322 LB/1000 GAL

SUBMERGED FILL:

GASOLINE: 0.3 LB/1000 GAL

DIESEL: 0.00084 LB/1000 GAL

VOCs

GASOLINE: 1.0 LB/1000 GAL

DIESEL: 0.0028 LB/1000 GAL

VOCs

GASOLINE: 11.0 LB/1000 GAL

DIESEL: 0.0308 LB/1000 GAL

TANK
REFUELING

G001

GAS/DIESEL TANK

GASOLINE: 99-X219-TNK

DIESEL: 99-X219-TNK

VENT

VEHICLE
REFUELING

AVERAGE THROUGHPUT 1995-1997:

GASOLINE: 3,601 GAL/MONTH

DIESEL: 5,162 GAL/MONTH

VOCs

GASOLINE: 0.7 LB/1000 GAL

DIESEL: 0.00196 LB/1000 GAL

SPILLAGE

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EMISSIONS ACTIVITY CATEGORY FORM 1467
GASOLINE, DIESEL, AND/OR KEROSENE DISPENSING FACILITY
 OEPA EMISSIONS UNIT ID G001 (if established)

1. Complete the table below for all tanks that store gasoline, diesel, or kerosene to be dispensed into motor vehicles and/or portable containers. See item (4) for additional information on the types of vapor control systems for tank filling. Also, any tank that stores used lubricating oil is to be included in the table below.

Tank ID	Tank Capacity (gallons)	Date Installed (mo/yr)	Material Stored (gasoline) (kerosene) (diesel) (used oil)	Type of Vapor Control System for Tank Filling (none, VB-1, VB-2, or other)	Fill Pipe Within 6 inches of Tank Bottom (yes or no)
99-X218	6000	1/25/95	Diesel	None	Yes
99-X219	6000	1/25/95	Gasoline	VB-2	Yes

2. Provide the number of dispensing nozzles for each petroleum product:

2 gasoline 2 diesel N/A kerosene

If a vapor control system is employed for gasoline motor vehicle refueling (Stage II), complete item (5) and mark an "X" here. _____

3. Provide the total gallons of petroleum products dispensed in each of the last two years (if a new facility, provide an estimate of the maximum expected throughput for a full year).

Year of 1996
39,496 gallons of gasoline
93,751 gallons of diesel
 _____ gallons of kerosene

Year of 1997
43,100 gallons of gasoline
59,336 gallons of diesel
 _____ gallons of kerosene

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4. Vapor Control System for Tank Filling (Stage I): If applicable, mark an "X" in the appropriate space and complete the data requested.

 (VB-1): Vapor Balance System, Single Point. This system consists of a coaxial, concentric or tube-in-tube fill pipe designed for simultaneous loading of the storage tank and return of displaced vapor to the delivery vessel. An adapter is needed for proper attachment to the delivery vessel's liquid/vapor connection. Identify the manufacturer and item number of the drop tube, adapter and any fitting on the line below.

 X **(VB-2): Vapor Balance System, Dual Point.** This system consists of a pipe, separate from the fill pipe, designed for the return of displaced vapor to the delivery vessel during loading of the storage tank. An adapter is needed on the vapor return pipe for proper attachment to the delivery vessel's vapor hose. Identify the manufacturer and item number of the vapor return pipe, adapter and fitting on the line below.

OPW Camlock

 (Other): Vapor Control System, Other Tank Vapor Balance. This system is designed to recover or reduce the emission of displaced vapor during loading of the storage tank, but it is not a vapor balance system as indicated above. Identify the manufacturer, model number and type of vapor control system on the line below. (Additional information on this system may be requested if needed.)

5. Vapor Control System for Gasoline Motor Vehicle Refueling (Stage II):

Type of vapor collection and control system (check one only):

 Vapor Balance Vacuum Assist Other

Complete the following table for the equipment (i.e., nozzles, hoses and dispensers) that constitute the vapor recovery system.

Equipment	Number of Items	Manufacturer's Name	Model Number	CARB Number (i.e., Executive Order No.)

6. Exemption from Stage II: If applying for an exemption from the State II vapor control requirements based on average gasoline throughput per month, please complete this item.

a. Average gallons of gasoline per month: 2,247 gallons/month*

*Basis for gallons/month (check one):

X Based on average monthly sales from November 16, 1990 through November 15, 1992. The facility was not inactive during this two-year period.

 Based on average monthly sales for twenty-four months of activity. The facility was inactive during a portion of the two-year period from November 16, 1990 through November 15, 1992. (Attach summary on monthly sales.)

b. Claiming exemption for less than 10,000 gallons/month throughput:

X Yes No

c. Claiming exemption for less than 50,000 gallons/month throughput and status as an independent small business marketer:

 Yes X No

7. Independent Small Business Marketer: This item must be completed if claiming status as an independent small business marketer.

a. The owner of the facility is a refiner: Yes No

b. The owner of the facility controls, is controlled by, or is under common control with a refiner: Yes No

c. The owner is otherwise directly or indirectly affiliated (as determined under the regulations of the U.S. Environmental Protection Agency) with a refiner or with a person who controls, is controlled by, or is under a common control with a refiner (unless the sole affiliation referred to herein is by means of a supply contract or an agreement or contract to use as a trademark, trade name, service mark, or other identifying symbol or name owned by such refiner or any such person): Yes No

d. The owner of the facility receives less than fifty percent of its annual income from refining or marketing of gasoline: Yes No

If all four conditions of item (7) are answered "No", the owner of the gasoline dispensing facility can claim status as an "independent small business marketer".

NOTE: The term "refiner" shall not include any refiner whose total refinery capacity (including the refinery capacity of any person who controls, is controlled by, or is under common control with, such refiner) does not exceed sixty-five thousand barrels per day, and the term "control" of a corporation means ownership of more than fifty percent of its stock.

8. (Optional) Stage II Compliance Schedule for Independent Small Business Marketer: If the facility is owned by an independent small business marketer and the facility is not otherwise exempted, then the following compliance schedule is applicable:
- a. A minimum of thirty-three percent of the gasoline dispensing facilities owned shall achieve final compliance by March 31, 1994;
 - b. A minimum of sixty-six percent of the gasoline dispensing facilities owned shall achieve compliance by March 31, 1995;
 - c. One hundred percent of the gasoline dispensing facilities owned shall achieve final compliance by March 31, 1996.

If item (8) is applicable, please attach documentation on the Stage II compliance schedule for all facilities owned by the independent small business marketer. Also, item (7) must be completed. If documentation is attached, mark an "X" here: _____

9. Final compliance date for Stage I (if applicable):

Final compliance date for Stage II (if applicable):
